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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

Cisco Systems, Inc.,

Plaintiff,
v.
Capella Photonics, Inc.,
Defendant

Case No. 3:20-cv-01858-EMC

**PLAINTIFF CISCO'S ANSWER TO
DEFENDANT CAPELLA'S
COUNTERCLAIMS**

Plaintiff Cisco Systems, Inc. (“Plaintiff” or “Cisco”) hereby responds to the Counterclaims contained in the Answer filed by Defendant Capella Photonics, Inc. (“Defendant” or “Capella”) on June 15, 2020.

PARTIES

1. Capella is a Delaware corporation with a principal place of business at 1100 La Avenida Street, Mountain View, CA 94043.

1 Cisco admits that Capella is a Delaware corporation and does not dispute that Capella has a
2 principal place of business at 1100 La Avenida Street, Mountain View, CA 94043.

3 *2. On information and belief, Cisco Systems, Inc. is a California corporation with its*
4 *principal place of business on Tasman Drive in San Jose, California 95134.*

5 Admitted.

6 **JURISDICTION AND VENUE**

7 *3. This is a civil action for patent infringement under the patent laws of the United*
8 *States, 35 U.S.C. § 1 et. seq. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and*
9 *1138(a).*

10 Admitted.

11 *4. This Court has personal jurisdiction over Cisco in this action because Cisco has filed*
12 *claims for declaratory relief in this action and has committed acts within this district giving rise to*
13 *this action and has established minimum contacts with this forum such that the exercise of*
14 *jurisdiction over Cisco would not offend traditional notions of fair play and substantial justice.*

15 Admitted.

16 *5. On information and belief, Cisco, directly and through subsidiaries or intermediaries,*
17 *has committed and continues to commit acts of infringement in this district by, among other things,*
18 *making, selling, offering for sale, and/or importing products and/or services that infringe the*
19 *asserted patents, and also through its own use and testing of products and/or services that infringe*
20 *the asserted patents.*

21 Denied.

22 *6. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b)-(d) and*
23 *1400(b). Cisco has committed acts of infringement in this district and has a regular and established*
24 *place of business in this district.*

25 Admitted that venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b)-(d)
26 and 1400(b) and that Cisco has a regular and established place of business in this district. Denied
27 that Cisco has committed acts of infringement in this district.

FACTUAL BACKGROUND

7. *Founded in 2000, Capella is a pioneer of breakthrough optical switching technologies for use in optical transmission networks. Those technologies include Dense Wavelength Division Multiplexing (DWDM) transport platforms that include reconfigurable optical add and drop multiplexers (ROADMs). Capella has designed, developed, produced and sold switching devices for optical transmission networks. As a result of many years of research and development, Capella has been granted an extensive portfolio of patents, including but not limited to those in suit.*

Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore denies them.

I. THE TECHNOLOGY

8. *Optical fiber is used by telecommunications companies to transmit telephone signals, Internet communications, and cable television signals. Optical fiber is a fast and efficient medium for conducting data in the form of light. Various wavelengths of light travel along optical fiber at the same time, with each wavelength carrying specific data intended for delivery to a specific location. An optical fiber is able to carry Internet traffic, cellular communications, and digital television transmissions simultaneously by using different wavelengths of light to carry the data.*

Cisco admits that optical fiber is used by telecommunications companies to transmit telephone signals, Internet communications, and cable television signals. The remainder of Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore denies them.

9. *Fiber-optics were first developed in the 1970s. Fiber-optics have revolutionized telecommunications and have played a major role in the development of the Internet. Because of numerous advantages over electrical transmission, including speed and bandwidth, optical fibers have largely replaced copper wire communications in networks around the world.*

Cisco admits that at least those of ordinary skill in the art prior to the effective filing date of the '905 and '906 patents would have known of fiber optics. The remainder of Capella's allegations

1 in the above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding
 2 them, and therefore denies them.

3 10. *As is generally known, the process of communicating using fiber-optics has involved
 4 the following basic steps:*

- 5 a) *creating the optical signal involving the use of a laser transmitter, usually from an
 6 electrical signal from a traditional copper based telephone network;*
- 7 b) *relaying the optical signal along the fiber;*
- 8 c) *receiving the optical signal at an optical receiver; and*
- 9 d) *converting the optical signal back into an electrical signal.*

10 Cisco admits that fiber-optic communications involves creating an optical signal using a
 11 laser, relaying the optical signal along a fiber, and receiving the optical signal. Cisco further admits
 12 that optical signals can be converted to electrical signals, and vice-versa. The remainder of the
 13 allegations in the above paragraph are vague characterizations, and do not require a response.

14 11. *Networks using optical fiber span the globe. Networks on a continent or within a
 15 country form a grid. Line segments of fiber optic cable intersect at hubs or nodes. At these hubs or
 16 nodes, there are DWDM transport platforms. In modern networks, such as those traversing the
 17 United States, the DWDM transport platforms are typically modular in nature with optical switching
 18 at the individual wavelength level carried out by one or more ROADM modules using the pioneering
 19 technology invented and patented by Capella. The ROADM modules may, in turn, be comprised of
 20 one or more modules. The modules are sold by Cisco and other manufacturers in various
 21 configurations, and also individually, with specific instructions and guidance on how to build
 22 infringing platforms. The instructions and guidance are set forth in Cisco marketing materials and,
 23 on information and belief, are provided directly by Cisco sales representatives and system engineers
 24 to customers of the platforms and components.*

25 Cisco admits that at least those of ordinary skill in the art prior to the effective filing date of
 26 the '905 and '906 patents would have known of networks using optical fiber, DWDM transport
 27 platforms, and ROADM modules. Cisco denies that its sales representatives and system engineers

1 provide specific instructions and guidance on how to build infringing platforms to customers. The
 2 remainder of Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient
 3 information to form a belief regarding them, and therefore denies them.

4 *12. DWDM transport platforms and their ROADM modules are the backbone of advanced fiber optic networks because they route (or switch) signals traveling along fiber optic cables in the directions they need to go. The switching occurs on the wavelength level, which means that a ROADM can separate all the wavelengths of light entering the device and direct them to go in different directions depending on the platform configuration. Certain wavelengths can be dropped from a fiber altogether and new wavelengths can be added onto fibers. ROADMs can also control flow across fiber optic cables. If traffic along one cable is particularly heavy at certain times, then a ROADM can manage that load by sending traffic along one fiber at certain times and another fiber at other times.*

13 Cisco admits that at least those of ordinary skill in the art prior to the effective filing date of the '905 and '906 patents would have known of DWDM transport platforms, ROADM modules, and dropping and adding signals on specific wavelengths traveling on a fiber. The remainder of Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore denies them.

14 *13. The development of ROADMs and their subsequent introduction into networks enabled video to be sent over the Internet. Before ROADMs, service providers had to use Optical to Electrical to Optical switches ("OEO switches"), which meant that data carried along optical cables had to be converted into electrical signals to be routed. In addition, OEO switches were very slow, expensive and difficult to house due to their refrigerator-like size. The introduction of ROADMs by service providers into their networks in about 2005 changed this, by allowing video to be transmitted at the speed of light through the ROADM instead of at the speed of electronics which is approximately 1000 times slower. ROADMs are also significantly less expensive than OEO switches and much easier to house based their compact size.*

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1 Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient
 2 information to form a belief regarding them, and therefore denies them.

3 14. *As their name suggests, ROADMs are reconfigurable, which means that they can be
 4 adjusted to send traffic or wavelengths in different directions at different times.*

5 Cisco admits that at least those of ordinary skill in the art prior to the effective filing date of
 6 the '905 and '906 patents would have known of ROADMs. The remainder of Capella's allegations
 7 in the above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding
 8 them, and therefore denies them.

9 15. *To ensure network reliability, ROADMs are subjected to a lengthy approval process
 10 before they are deployed. In addition, for most networks, more than one vendor is selected.*

11 Capella's allegations in the above paragraph are vague, and Cisco lacks sufficient
 12 information to form a belief regarding them, and therefore denies them.

13 16. *On information and belief, Cisco has offered for sale, sold and/or imported into the
 14 United States DWDM transport platforms and modules for optical networks deployed around the
 15 world including specifically in this District that infringe the '905 and '906 patents and continues to
 16 do so.*

17 Denied.

18 II. THE PATENTS IN SUIT

19 17. *Capella is the owner of United States Patent No. 6,879,750 entitled, "Reconfigurable
 20 Optical Add-Drop Multiplexers with Servo Control and Dynamic Spectral Power Management
 21 Capabilities" (the "'750 patent"). The '750 patent issued April 12, 2005 to Capella and claims
 22 priority to applications filed in 2001. The '750 was reissued to Capella on May 17, 2011 as United
 23 States Patent No. RE 42,368 (the "'368 patent"). The '368 patent was reissued to Capella on March
 24 17, 2020 as United States Patent No. RE 47,905 (the "'905 patent").*

25 Cisco admits that the '750 patent is titled, "Reconfigurable Optical Add-Drop Multiplexers
 26 with Servo Control and Dynamic Spectral Power Management Capabilities;" that it issued April 12,
 27 2005; that it purports to claim priority to applications filed in 2001; that the '750 was reissued on
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1 May 17, 2011, as the '368 patent; and that the '368 patent was reissued on March 17, 2020, as the
 2 '905 patent. Cisco admits that Capella purports to be the owner of each of the patents listed in the
 3 above paragraph, including through its allegations in its answer, and in previously and recently filed
 4 complaints for patent infringement, but Cisco lacks sufficient information to admit or deny whether
 5 Capella's claim of ownership is correct.

6 18. One or more claims of the '905 patent is substantially identical to one or more claims
 7 of the original '368 patent.

8 Denied.

9 19. *Preferred embodiments of inventions recited in the '905 patent provide an optical
 10 add-drop apparatus comprising a multi-wavelength input port, a wavelength-selective device for
 11 spatially separating spectral channels, and an array of beam deflecting elements to reflect the
 12 spectral channels to selected ports. The inventions provide many advantages over prior art devices
 13 including the capability of routing spectral channels on a channel-by-channel basis and directing
 14 any spectral channel into any one of the output ports. Its underlying operation is dynamically
 15 reconfigurable, and its underlying architecture is intrinsically scalable to a large number of channel
 16 counts.*

17 Denied on the grounds that the above paragraph calls for a legal conclusion and does not
 18 provide a complete recitation of the features of the preferred embodiments.

19 20. *Capella is the owner of United States Patent No. 6,625,346 entitled, "Reconfigurable
 20 Optical Add-Drop Multiplexers with Servo Control and Dynamic Spectral Power Management
 21 Capabilities" (the "'346 patent"). The '346 patent issued September 23, 2003 to Capella and claims
 22 priority to applications filed in 2001. The '346 patent was reissued to Capella on November 14,
 23 2006 as United States Patent No. RE 39,397 (the "'397 patent"). The '397 was reissued to Capella
 24 on September 6, 2011 as United States Patent No. RE 42,678 (the "'678 patent"). The '678 patent
 25 was reissued to Capella on March 17, 2020 as United States Patent No. RE 47,906 (the "'906
 26 patent").*

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1 Cisco admits that the '346 patent is titled, "Reconfigurable Optical Add-Drop Multiplexers
 2 with Servo Control and Dynamic Spectral Power Management Capabilities;" that it issued
 3 September 23, 2003; that it purports to claim priority to applications filed in 2001; that the '346 was
 4 reissued on November 14, 2006, as the '397 patent; that the '397 patent was reissued on September
 5 6, 2011, as the '678 patent; and that the '678 patent reissued on March 17, 2020 as the '906 patent.
 6 Cisco admits that Capella purports to be the owner of each of the patents listed in the above
 7 paragraph, including through its allegations in its answer, and in previously and recently filed
 8 complaints for patent infringement, but Cisco lacks sufficient information to admit or deny whether
 9 Capella's claim of ownership is correct.

10 21. *One or more claims of the '906 patent is substantially identical to one or more claims
 11 of the original '678 patent.*

12 Denied.

13 22. *Preferred embodiments of inventions recited in the '906 patent provide wavelength-
 14 separating-routing apparatus comprising an input port for a multiple wavelength optical signal, a
 15 wavelength-separator for separating the multiwavelength optical signal, and an array of channel
 16 micromirrors to reflect the spectral channels to selected ports. The inventions provide many
 17 advantages over prior art devices including the capability of routing spectral channels on a channel-
 18 by-channel basis and directing any spectral channel into any one of the output ports. Its underlying
 19 operation is dynamically reconfigurable, and its underlying architecture is intrinsically scalable to a
 20 large number of channel counts.*

21 Denied on the grounds that the abvoe paragraph calls for a legal conclusion and does not
 22 provide a complete recitation of the features of the preferred embodiments.

23 23. *The '905 and '906 patents, and all members of the chain discussed above, are
 24 assigned to Capella and Capella holds the right to sue and to recover damages for infringement,
 25 including past infringement, of each of the '905 and '906 patents (collectively, the "Asserted
 26 Patents").*

1 Denied that Capella holds the right to sue and to recover for pre-suit damages of each of the
 2 ‘905 and ‘906 patents (collectively, the “Asserted Patents”). As but one example, Cisco is entitled to
 3 intervening rights under 35 U.S.C. § 252 because the scope of the claims of the Asserted Patents are
 4 narrower than the scope of the claims of the original patents from which those patents reissued. *See*
 5 Exhibit 1 (demonstrative comparing the claims of the Asserted Patents to the claims of the original
 6 patents from which the Asserted Patents reissues showing that all of the claims of the Asserted
 7 Patent contain limitations not present in the claims of the original patents). Cisco lacks sufficient
 8 information to admit or deny the remaining allegations of the above paragraph, and therefore denies
 9 them.

10 **III. CISCO’S ALLEGED DIRECT INFRINGEMENT**

11 *24. On information and belief, Cisco, directly and through subsidiaries or intermediaries,*
 12 *has committed and continues to commit acts of infringement by, among other things, making, selling,*
 13 *offering for sale, and/or importing products and/or services that infringe the Asserted Patents, and*
 14 *also through its own use and testing of products and/or services that infringe the Asserted Patents.*

15 Denied.

16 **IV. CISCO’S ALLEGED INDIRECT INFRINGEMENT**

17 *25. Cisco’s infringement began long ago and has continued willfully.*

18 Denied.

19 *26. Cisco has been on notice of infringement since at least 2014 when Capella filed suit*
 20 *for infringement of the ’368 and ’678 patents against Cisco in the U.S. District Court for the*
 21 *Southern District of Florida in an action entitled Capella Photonics, Inc. v. Cisco Systems, Inc.*
 22 *(Case No. 1:14-cv-20529-PAS). That action was consolidated with other actions and subsequently*
 23 *transferred to the Northern District of California, where it was assigned Case No. 3:14-cv-03348-*
 24 *EMC. In connection with its defense of that action, Cisco has followed and participated in post-*
 25 *grant proceedings for the ’368 and ’678 patents since 2014 and its counsel reported to the court on*
 26 *those post-grant proceedings. Since December 2019, Cisco has been on notice of the PTO’s decision*
 27 *to reissue the ’368 and ’678 patents and the scope of the reissued claims. Since February 2020,*

1 *Cisco has known about the March 17, 2020 issuance of the '905 and '906 patents and the scope of*
 2 *the reissued claims.*

3 Cisco admits that Capella filed suit for infringement of the '368 and '678 patents against
 4 Cisco in the U.S. District Court for the Southern District of Florida in an action entitled *Capella*
 5 *Photonics, Inc. v. Cisco Systems, Inc.* (Case No. 1:14-cv-20529-PAS), and that action was
 6 transferred to the Northern District of California, where it was assigned Case No. 3:14-cv-03348-
 7 EMC. Cisco further admits that it participated in *inter partes review* proceedings for the '368 and
 8 '678 patents beginning in 2014. Cisco admits that Cisco had knowledge of the U.S. Patent Office's
 9 intention to publish reissue patents stemming from the '368 and '678 patents before the March 17,
 10 2020 reissue date. Cisco denies that it has been on notice of infringement of any patent, including
 11 the '368 and '678 patents, or the '905 and '906 patents since 2014, or at any point in time, for at
 12 least the reasons that (i) Cisco does not infringe any claims of those patents, and (ii) the '905 and
 13 '906 patents did not issue until March 17, 2020, and issued with claims that are materially different
 14 in scope than the underlying '368 and '678 patents. The remainder of Capella's allegations in the
 15 above paragraph are vague, and Cisco lacks sufficient information to form a belief regarding them,
 16 and therefore denies them.

17 27. *Cisco is a known market leader and one of the dominant players in optical transport*
 18 *platforms.*

19 The allegations of the above paragraph consist of vague characterizations that require no
 20 response.

21 28. *Cisco knows that it provides and markets products to customers that, when used,*
 22 *directly infringe the '905 and '906 patents. These products include, without limitation, the 15454*
 23 *MSTP and NCS 2000 products (collectively "Infringing Products" and/or "Accused*
 24 *Instrumentalities").*

25 Denied.

26 29. *Cisco actively encourages the installation and use of its Infringing Products. For*
 27 *example, Cisco explains to customers the individual modules that are available to customers as well*

as standard and custom configurations. See e.g. [citations omitted] where Cisco describes standard and custom platform configurations.

Cisco admits that it provides configuration information related to the 15454 MSTP and NCS2000 product lines. Cisco denies the remainder in the allegations in the above paragraph, including that any Cisco product infringes, or that Cisco encourages infringement.

30. On information and belief, Cisco has designed, marketed, and sold its Infringing Products to third parties with knowledge and the specific intent to cause the third parties to make, use, offer to sell, or sell in the United States, and/or import into the United States the Infringing Products. See *Id.*

Denied.

31. *On information and belief, Cisco actively encourages its customers and end users to directly infringe the '905 and '906 patents by encouraging them to use the Infringing Products.*

Denied.

32. On information and belief, Cisco promoted and continues to promote the sales of the Accused Instrumentalities, e.g., through Cisco's user manuals, product support, marketing materials, demonstrations, installation support, and training materials to actively induce the users of the accused products to infringe the '905 and '906 patents.

Denied.

33. Cisco knew or should have known and intended that its continued actions would infringe and actively induce and contribute to the infringement of the claims of the '368 and '678 patents as reissued in the '905 and '906 patents.

Denied.

COUNT I

(ALLEGED INFRINGEMENT OF THE '905 PATENT)

34. Paragraphs 1- 33 are incorporated by reference as if fully set forth herein.

The above paragraph does not contain any allegation of fact, and, therefore, no answer is required.

1 35. Pursuant to 35 U.S.C. § 282, the '905 patent is presumed valid.

2 Cisco admits that issued U.S. Patents are entitled to a presumption of validity, but Cisco
3 denies that the '905 patent is valid.

4 36. On information and belief, Cisco directly infringes the '905 patent by having made,
5 making, using, offering for sale, selling and/or importing into the United States the Infringing
6 Products and Accused Instrumentalities, and continues to do so.

7 Denied.

8 37. On information and belief, the Infringing Products directly infringe at least claim 23
9 of the '905 patent at least in the exemplary manner described below.

10 Denied.

11 38. The Infringing Products comprise an optical add-drop apparatus comprising: [a] the
12 fiber collimator input port for an input multi-wavelength optical signal having first spectral
13 channels the fiber collimator one or more other ports for second spectral channels the output port
14 for an output multi-wavelength optical signal; [b] a wavelength-selective device for spatially
15 separating said spectral channels; [c] a spatial array of beam-deflecting elements positioned such
16 that each element receives a corresponding one of said spectral channels, each of said elements
17 being individually and continuously controllable in two dimensions to reflect its corresponding
18 spectral channel to a selected one of said output port or the fiber collimator ports and to control the
19 power of the spectral channel reflected to said output port or the fiber collimator selected port.

20 Denied.

21 39. Cisco offers the 15454 MSTP and NCS 2000 products. These products are modular
22 Dense Wavelength Division Multiplexing (DWDM) add-drop optical transport platforms designed
23 for metro, regional and long-haul networks.

24 Cisco offers product lines branded 15454 MSTP and NCS2000. The remainder of the
25 allegations in the above paragraph are vague, and Cisco lacks sufficient information to form a belief
26 regarding them, and therefore denies them.

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1 40. *The NCS 2000 is a modular add-drop optical platforms for dense wavelengthdivision
2 multiplexing (DWDM) solutions. It delivers touchless programmability, massive scale, and ultra-
3 long-haul performance necessary for tomorrow's converged network architectures. The 15454
4 MSTP is a modular add-drop optical platform that offers DWDM, ROADM and network design
5 capabilities to deliver and manage growing networks. See e.g. [citations omitted].*

6 The cited Cisco documentation speaks for itself and requires no response. To the extent that
7 Capella attempts to characterize that documentation in the above paragraph, those characterizations
8 are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore
9 denies them.

10 41. *The Infringing Products use a flexible ROADM architecture. The ROADM
11 functionality is delivered using Wavelength Selective Switch (WSS), a module of the platforms.*

12 The allegations in the above paragraph consist of vague characterizations, and Cisco lacks
13 sufficient information to form a belief regarding them, and therefore denies them. Cisco denies that
14 any of its products infringe the '905 or '906 patents.

15 42. *According to Cisco, the Cisco ONS 15454 MSTP offers a fully integrated
16 reconfigurable optical add/drop multiplexing (ROADM) solution, for delivering any wavelength to
17 any location in a metro or regional network. The ROADM cards are part of the Cisco ONS 15454
18 MSTP intelligent DWDM architecture engineered to reduce DWDM complexity and speed the
19 deployment of next-generation networking solutions. Further, according to Cisco, the large numbers
20 of ports on the Cisco NCS 2000 Flex Spectrum Single Module ROADM Line Cards are made
21 possible by the twin-WSS route and select architecture featured by Cisco nLight ROADMs. By
22 routing, instead of broadcasting, express channels, insertion loss is reduced, preserving optical
23 signal-to-noise ratio (OSNR). The Cisco nLight architecture therefore allows multi-degree ROADM
24 nodes, plus CCOFS add/drop, at large scale. See Id.*

25 The cited Cisco documentation speaks for itself and requires no response. To the extent that
26 Capella attempts to characterize that documentation in the above paragraph, those characterizations
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1 are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore
 2 denies them.

3 43. *The WSS enables dynamic optical branching to multiple different optical paths, in*
 4 *addition to facilitating local add/drop of individual wavelengths. The ROADM includes multiple*
 5 *fiber collimator in/out ports. The fiber collimators provide and serve as input ports for*
 6 *multiwavelength optical signals and as output and other ports. See Id.*

7 Denied.

8 44. *The WSS use a wavelength separator or diffraction grating as a wavelength selective*
 9 *device for separating the multi-wavelength optical signal from a fiber collimator input port into*
 10 *multiple spectral channels. This splits the signal into multiple wavelengths for optical branching.*
 11 *The WSS enables optical branching to multiple different optical paths, in addition to facilitating*
 12 *local add/drop of individual wavelengths. See Id.*

13 Denied.

14 45. *The WSS includes a spatial array of individually and continuously controllable beam-*
 15 *deflecting elements, including MEMs and LCoS channel micromirrors, positioned such that each*
 16 *element receives a corresponding one of the spectral channels, each of the elements being*
 17 *individually and continuously controllable in two dimensions to reflect its corresponding spectral*
 18 *channel to a selected one of the output port or the fiber collimator ports and to control the power of*
 19 *the spectral channel reflected to the output port or the fiber collimator selected port. See Id.*

20 Denied.

21 46. *The WSS includes a multiwavelength fiber collimator input port. A grating is used to*
 22 *separate the wavelengths, and each wavelength is directed onto its own moveable mirror or beam*
 23 *deflecting element. This allows automatic power management of each wavelength and switching of*
 24 *individual wavelengths to selected fiber collimator output ports.*

25 Denied.

26 47. *Cisco also directly infringes other claims of the '905 patent.*

27 Denied.

1 48. *On information and belief, use of the Accused Instrumentalities results in*
 2 *infringement of the claims of the '905 patent.*

3 Denied.

4 49. *Cisco's affirmative acts of making, using, selling, offering for sale, and/or importing*
 5 *the Accused Instrumentalities have induced and continue to induce users of the Accused*
 6 *Instrumentalities to use the Accused Instrumentalities in their normal and customary way to infringe*
 7 *the claims of the '905 patent.*

8 Denied.

9 50. *On information and belief, at least as of the filing of this Complaint and likely earlier*
 10 *as set forth above, Cisco knew of the '905 patent, and knew that its activities would lead to*
 11 *infringement of the patent by its customers and end users.*

12 Denied.

13 51. *For example, Cisco sells the Accused Instrumentalities to customers and end users*
 14 *with the intent that such customers and end users will use the Accused Instrumentalities in such a*
 15 *way to constitute direct infringement of at least Claim 23 of the '905 patent as set forth above.*

16 Denied.

17 52. *For example, Cisco explains to customers the individual modules that are available*
 18 *to customers as well as standard and custom configurations. See Id.*

19 Denied.

20 53. *Cisco performed the acts that constitute induced infringement, and would induce*
 21 *actual infringement, with the knowledge of the '905 patent and its claims and with the knowledge, or*
 22 *willful blindness to the probability, that the induced acts would constitute infringement.*

23 Denied.

24 54. *On information and belief, Cisco engaged in such inducement to promote the sales of*
 25 *the Accused Instrumentalities, e.g., through Cisco's user manuals, product support, marketing*
 26 *materials, demonstrations, installation support, and training materials to actively induce the users of*
 27 *the accused products to infringe the '905 patent.*

1 Denied.

2 55. *Accordingly, Cisco has induced and continues to induce end users of the accused*
 3 *products to use the accused products in their ordinary and customary way with compatible systems*
 4 *to make and/or use systems infringing the '905 patent, knowing that such use of the Accused*
 5 *Instrumentalities with compatible systems will result in infringement of the '905 patent. Accordingly,*
 6 *Cisco has been and currently is inducing infringement of the '905 patent in violation of 35 U.S.C. §*
 7 *271(b).*

8 Denied.

9 56. *Cisco has also contributorily infringed and continues to contribute to infringement of*
 10 *claims of the '905 patent by selling and offering to sell, offering to commercially distribute,*
 11 *commercially distributing, making, and/or importing the Accused Instrumentalities, which are used*
 12 *in practicing the process, or using the systems, claimed by the '905 patent, knowing the Accused*
 13 *Instrumentalities to be especially made or especially adapted for use in an infringement of the '905*
 14 *patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.*

15 Denied.

16 57. *On information and belief, at least as of the filing of this Complaint and likely earlier*
 17 *as set forth above, Cisco knew of the '905 patent, and knew that its activities would lead to*
 18 *infringement of the patent by its customers and end users.*

19 Denied.

20 58. *Cisco knows the modules in the Accused Instrumentalities to be especially made or*
 21 *especially adapted for use in infringement of the '905 patent, not a staple article, and not a*
 22 *commodity of commerce suitable for substantial noninfringing use. For example, the ordinary way*
 23 *of using the Accused Instrumentalities infringes the patent claims, and as such, is especially adapted*
 24 *for use in infringement. Accordingly, Cisco has been, and currently is, contributorily infringing the*
 25 *'905 patent, in violation of 35 U.S.C. § 271(c).*

26 Denied.

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1 59. *Capella has suffered and will continue to suffer damage as a result of Cisco's
2 infringement of the '905 patent in an amount to be proven at trial.*

3 Denied.

4 60. *Upon information and belief, Cisco did not have and could not have had a reasonable
5 belief that the Accused Instrumentalities did not infringe the Asserted Patents. Any manufacturing,
6 sales, offers for sale, uses, or importation by Defendants of the Infringing Products reflects a
7 deliberate and knowing decision to infringe the '905 patent or, at the very least, a reckless disregard
8 of Capella's patent rights. By its prior action, Capella made known to Cisco that Cisco's activities in
9 making, using, offering for sale, selling and/or importing into the United States the Infringing
10 Products and Accused Instrumentalities constituted a sufficient risk of infringement that Cisco
11 should have ceased those activities. Under the circumstances, Cisco knew or should have known the
12 risk of infringement caused by Cisco's activities related to the Accused Instrumentalities. Despite
13 Cisco's knowledge, Cisco intentionally ignored or recklessly disregarded the risk that its activities
14 infringed the Asserted Patents. Cisco's conduct manifested deliberate or reckless disregard of
15 Capella's rights in the Asserted Patents and was malicious, flagrant and in bad faith.*

16 Denied.

17 61. *Cisco's manufacturing, sales, offers for sale, uses, or importation of the Infringing
18 Products has been willful, and Capella is entitled to treble damages and attorneys' fees and costs
19 incurred in this action, along with prejudgment interest under 35 U.S.C. §§ 284 & 285.*

20 Denied.

21 62. *Cisco will continue to infringe the '905 patent unless and until it is enjoined by this
22 Court.*

23 Denied.

24 63. *Cisco's acts of infringement have caused and will continue to cause irreparable harm
25 to Capella unless and until Cisco is enjoined by this Court.*

26 Denied.

COUNT II

(ALLEGED INFRINGEMENT OF THE '906 PATENT)

64. Paragraphs 1-63 are incorporated by reference as if fully set forth herein.

The above paragraph does not contain any allegation of fact, and, therefore, no answer is required.

65. Pursuant to 35 U.S.C. § 282, the '906 patent is presumed valid.

Cisco admits that issued U.S. Patents are entitled to a presumption of validity, but Cisco denies that the '906 patent is valid.

66. On information and belief, Cisco directly infringes the '906 patent by having made, making, using, offering for sale, selling and/or importing into the United States the Infringing Products and Accused Instrumentalities, and continues to do so.

Denied.

67. *On information and belief, the Infringing Products directly infringe at least claim 68 of the '906 patent at least in the exemplary manner described below.*

Denied.

68. *The Infringing Products comprise a wavelength-separating-routing apparatus, comprising: a) multiple fiber collimators, providing and serving as an input port for a multiwavelength optical signal and a plurality of output ports; b) a wavelength-separator, for separating said multi-wavelength optical signal from said fiber collimator input port into multiple spectral channels; c) a beam-focuser, for focusing said spectral channels into corresponding spectral spots; and d) a spatial array of channel micromirrors positioned such that each channel micromirror receives one of said spectral channels, said channel micromirrors being pivotal about two axes and being individually and continuously controllable to reflect corresponding received spectral channels into any selected ones of said fiber collimator output ports and to control the power of said received spectral channels coupled into said fiber collimator output ports.*

Denied.

1 69. *Cisco offers the 15454 MSTP and NCS 2000 products. These products are modular*
 2 *Dense Wavelength Division Multiplexing (DWDM) add-drop optical transport platforms designed*
 3 *for metro, regional and long-haul networks.*

4 Cisco offers product lines branded 15454 MSTP and NCS2000. The remainder of the
 5 allegations in the above paragraph are vague, and Cisco lacks sufficient information to form a belief
 6 regarding them, and therefore denies them.

7 70. *The NCS 2000 is a modular add-drop optical platforms for dense wavelengthdivision*
 8 *multiplexing (DWDM) solutions. It delivers touchless programmability, massive scale, and ultra-*
 9 *long-haul performance necessary for tomorrow's converged network architectures. The 15454*
 10 *MSTP is a modular add-drop optical platform that offers DWDM, ROADM and network design*
 11 *capabilities to deliver and manage growing networks. See e.g. [citations omitted].*

12 The cited Cisco documentation speaks for itself and requires no response. To the extent that
 13 Capella attempts to characterize that documentation in the above paragraph, those characterizations
 14 are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore
 15 denies them.

16 71. *The Infringing Products use a flexible ROADM architecture. The ROADM*
 17 *functionality is delivered using Wavelength Selective Switch (WSS), a module of the platforms.*

18 The allegations in the above paragraph consist of vague characterizations, and Cisco lacks
 19 sufficient information to form a belief regarding them, and therefore denies them. Cisco denies that
 20 any of its products infringe the '905 or '906 patents.

21 72. *According to Cisco, the Cisco ONS 15454 MSTP offers a fully integrated*
 22 *reconfigurable optical add/drop multiplexing (ROADM) solution, for delivering any wavelength to*
 23 *any location in a metro or regional network. The ROADM cards are part of the Cisco ONS 15454*
 24 *MSTP intelligent DWDM architecture engineered to reduce DWDM complexity and speed the*
 25 *deployment of next-generation networking solutions. Further, according to Cisco, the large numbers*
 26 *of ports on the Cisco NCS 2000 Flex Spectrum Single Module ROADM Line Cards are made*
 27 *possible by the twin-WSS route and select architecture featured by Cisco nLight ROADMs. By*

1 *routing, instead of broadcasting, express channels, insertion loss is reduced, preserving optical
2 signal-to-noise ratio (OSNR). The Cisco nLight architecture therefore allows multi-degree ROADM
3 nodes, plus CCOFS add/drop, at large scale. See Id.*

4 The cited Cisco documentation speaks for itself and requires no response. To the extent that
5 Capella attempts to characterize that documentation in the above paragraph, those characterizations
6 are vague, and Cisco lacks sufficient information to form a belief regarding them, and therefore
7 denies them.

8 73. *The WSS enables dynamic optical branching to multiple different optical paths, in
9 addition to facilitating local add/drop of individual wavelengths. The ROADM includes multiple
10 fiber collimator in/out ports. The fiber collimators provide and serve as input ports for
11 multiwavelength optical signals and as output and other ports. See Id.*

12 Denied.

13 74. *The WSS use a wavelength separator or diffraction grating as a wavelength-
14 separator for separating a multi-wavelength optical signal from a fiber collimator input port into
15 multiple spectral channels. This splits the signal into multiple wavelengths for optical branching.
16 The WSS enables optical branching to multiple different optical paths, in addition to facilitating
17 local add/drop of individual wavelengths. See Id.*

18 Denied.

19 75. *The WSS includes a spatial array of individually and continuously controllable
20 channel micromirrors, including MEMs and LCoS channel micromirrors, positioned such that each
21 channel micromirror receives a spectral channels. The channel micromirrors are pivotal about two
22 axes and are individually and continuously controllable to reflect corresponding received spectral
23 channels into any selected ones of the fiber collimator output ports and to control the power of the
24 received spectral channels coupled into the fiber collimator output ports. See Id.*

25 Denied.

26 76. *The Cisco WSS includes a multiwavelength fiber collimator input port. A grating is
27 used to separate the wavelengths, and each wavelength is directed onto its own moveable mirror or
28*

1 beam deflecting element. This allows automatic power management of each wavelength and
 2 switching of individual wavelengths to selected fiber collimator output ports. The WSS also works in
 3 reverse to direct separate input signals of different wavelengths to a common fiber collimator port.
 4 See e.g. [citation omitted].

5 Denied.

6 77. Cisco also directly infringes other claims of the '906 patent.

7 Denied.

8 78. On information and belief, use of the Accused Instrumentalities results in
 9 infringement of the claims of the '906 patent.

10 Denied.

11 79. Cisco's affirmative acts of making, using, selling, offering for sale, and/or importing
 12 the Accused Instrumentalities have induced and continue to induce users of the Accused
 13 Instrumentalities to use the Accused Instrumentalities in their normal and customary way to infringe
 14 the claims of the '906 patent.

15 Denied.

16 80. On information and belief, at least as of the filing of this Complaint and likely earlier
 17 as set forth above, Cisco knew of the '906 patent, and knew that its activities would lead to
 18 infringement of the patent by its customers and end users

19 Denied.

20 81. For example, Cisco sells the Accused Instrumentalities to customers and end users
 21 with the intent that such customers and end users will use the Accused Instrumentalities in such a
 22 way to constitute direct infringement of at least Claim 68 of the '906 patent as set forth above.

23 Denied.

24 82. For example, Cisco explains to customers the individual modules that are available
 25 to customers as well as standard and custom configurations. See Id

26 Denied.

1 83. Cisco performed the acts that constitute induced infringement, and would induce
 2 actual infringement, with the knowledge of the '906 patent and its claims and with the knowledge, or
 3 willful blindness to the probability, that the induced acts would constitute infringement.

4 Denied.

5 84. On information and belief, Cisco engaged in such inducement to promote the sales of
 6 the Accused Instrumentalities, e.g., through Cisco's user manuals, product support, marketing
 7 materials, demonstrations, installation support, and training materials to actively induce the users of
 8 the accused products to infringe the '906 patent.

9 Denied.

10 85. Accordingly, Cisco has induced and continues to induce end users of the accused
 11 products to use the accused products in their ordinary and customary way with compatible systems
 12 to make and/or use systems infringing the '906 patent, knowing that such use of the Accused
 13 Instrumentalities with compatible systems will result in infringement of the '906 patent. Accordingly,
 14 Cisco has been and currently is inducing infringement of the '906 patent in violation of 35 U.S.C. §
 15 271(b).

16 Denied.

17 86. Cisco has also contributorily infringed and continues to contribute to infringement of
 18 claims of the '906 patent by selling and offering to sell, offering to commercially distribute,
 19 commercially distributing, making, and/or importing the Accused Instrumentalities, which are used
 20 in practicing the process, or using the systems, claimed by the '906 patent, knowing the Accused
 21 Instrumentalities to be especially made or especially adapted for use in an infringement of the '906
 22 patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.

23 Denied.

24 87. On information and belief, at least as of the filing of this Complaint and likely earlier
 25 as set forth above, Cisco knew of the '906 patent, and knew that its activities would lead to
 26 infringement of the patent by its customers and end users.

27 Denied.

1 88. Cisco knows the modules in the Accused Instrumentalities to be especially made or
 2 especially adapted for use in infringement of the '906 patent, not a staple article, and not a
 3 commodity of commerce suitable for substantial noninfringing use. For example, the ordinary way
 4 of using the Accused Instrumentalities infringes the patent claims, and as such, is especially adapted
 5 for use in infringement. Accordingly, Cisco has been, and currently is, contributorily infringing the
 6 '906 patent, in violation of 35 U.S.C. § 271(c).

7 Denied.

8 89. Capella has suffered and will continue to suffer damage as a result of Cisco's
 9 infringement of the '906 patent in an amount to be proven at trial.

10 Denied.

11 90. Upon information and belief, Cisco did not have and could not have had a reasonable
 12 belief that the Accused Instrumentalities did not infringe the Asserted Patents. Any manufacturing,
 13 sales, offers for sale, uses, or importation by Defendants of the Infringing Products reflects a
 14 deliberate and knowing decision to infringe the '906 patent or, at the very least, a reckless disregard
 15 of Capella's patent rights. By its prior action, Capella made known to Cisco that Cisco's activities in
 16 making using, offering for sale, selling and/or importing into the United States the Infringing
 17 Products and Accused Instrumentalities constituted a sufficient risk of infringement that Cisco
 18 should have ceased those activities. Under the circumstances, Cisco knew or should have known the
 19 risk of infringement caused by Cisco's activities related to the Accused Instrumentalities. Despite
 20 Cisco's knowledge, Cisco intentionally ignored or recklessly disregarded the risk that its activities
 21 infringed the Asserted Patents. Cisco's conduct manifested deliberate or reckless disregard of
 22 Capella's rights in the Asserted Patents and was malicious, flagrant and in bad faith.

23 Denied.

24 91. Cisco's manufacturing, sales, offers for sale, uses, or importation of the Infringing
 25 Products has been willful, and Capella is entitled to treble damages and attorneys' fees and costs
 26 incurred in this action, along with prejudgment interest under 35 U.S.C. §§ 284 & 285. Cisco will
 27 continue to infringe the '906 patent unless and until it is enjoined by this Court.

1 Denied.

2 92. *Cisco's acts of infringement have caused and will continue to cause irreparable harm*
3 *to Capella unless and until Cisco is enjoined by this Court.*

4 Denied.

5 **EXCEPTIONAL CASE**

6 93. *The allegations contained in paragraphs 1-92 above are repeated and realleged as if*
7 *fully set forth herein*

8 The above paragraph does not contain any allegation of fact, and, therefore, no answer is
9 required.

10 94. *Based on, among other things, the facts alleged in the paragraphs above, including*
11 *Defendants' intentional use of the Asserted Patents, Defendants' knowledge of its infringement, and*
12 *Defendants' continued direct and/or indirect infringement, this case is exceptional under 35 U.S.C.*
13 *§ 285, and Capella is entitled to its reasonable costs and expenses of litigation*

14 Denied.

15 **CAPELLA'S REQUEST FOR RELIEF**

16 WHEREFORE, Capella respectfully requests that this Court enter:

17 a. *A Judgment in favor of Capella that Cisco has infringed, either literally and/or under the*
18 *doctrine of equivalents, the '905 patent and the '906 patent;*

19 b. *An order enjoining Cisco from further acts of infringement of the Asserted Patents;*

20 c. *A judgment and order requiring Cisco to pay Capella its damages, costs, expenses, and*
21 *prejudgment and post-judgment interest for its infringement of the Asserted Patents, as provided*
22 *under 35 U.S.C. § 284; and, if necessary to compensate Capella for Cisco's infringement*
23 *adequately, an accounting;*

24 d. *Awarding increased damages for Defendants' willful infringement;*

25 e. *Declaring that this case is exceptional under 35 U.S.C. § 285 and awarding Capella its*
26 *reasonable costs and expenses of litigation, including attorneys' and experts' fees; and*

f. Awarding Capella such equitable, other, different, and additional relief as this Court deems equitable and proper under the circumstances.

Cisco denies that Capella is entitled to any of Capella's requested relief, and denies each and every allegation contained in these paragraphs. Cisco requests that a take-nothing judgment be entered in its favor against Capella on each and every count contained in the Answer.

CISCO'S DEFENSES

Without assuming any burden of proof that it would not otherwise bear, Cisco asserts the following defenses. Cisco reserves the right to amend this answer with additional defenses as further information is obtained. Cisco asserts each of these defenses in the alternative, without admitting that Cisco is in any way liable to Capella, that Capella has been or will be injured or damaged in any way, or that Capella is entitled to any relief whatsoever. Cisco alleges as follows:

FIRST DEFENSE

(Non-Infringement)

1. Cisco has not directly or indirectly infringed, literally or under the doctrine of equivalents, any valid and enforceable claim of the Asserted Patents.

SECOND DEFENSE

(Invalidity)

2. The claims of the Asserted Patents are invalid and/or void for failure to meet the conditions of patentability set forth in 35 U.S.C. §§ 101 *et seq.*, including more particularly failure to comply with one or more of the requirements of 35 U.S.C. §§ 101, 102, 103, and 112 thereof, and/or the Rules and Regulations of the U.S. Patent & Trademark Office set forth in Title 37 of the Code of Federal Regulations. As but one example, the Asserted Patents admit that U.S. Patent No. 6,204,946 to Aksyuk (Exhibit 2) and U.S. Patent 5,906,133 to Tomlinson (Exhibit 3) are prior art. Nearly every limitation of the claims of the Asserted Patents can be found in Aksyuk and Tomlinson. The only limitations not present in Aksyuk and Tomlinson were not novel because they were known in the prior art and it would have been obvious to combine those other elements with Aksyuk and Tomlinson to arrive at the claimed invention.

1 THIRD DEFENSE**(Failure to Provide Notice)**

3. Under 35 U.S.C. § 287, Capella is precluded from seeking damages for any and all
 4 alleged infringement prior to the date of notice of any alleged infringement.

5 FOURTH DEFENSE**(Laches / Estoppel / Waiver)**

7. Capella cannot recover any damages from Cisco for alleged infringement of the
 8 Asserted Patents due to laches, estoppel, and/or waiver.

9 FIFTH DEFENSE**(License / Patent Exhaustion)**

11. To the extent that Capella has granted any of Cisco's suppliers a license under the
 12 Asserted Patents, or to the extent any of Cisco's suppliers otherwise have a license under the
 13 Asserted Patents, the relief sought by Capella in relation to the Asserted Patents is barred by license
 14 and/or under the doctrine of patent exhaustion.

15 SIXTH DEFENSE**(Prosecution History Estoppel)**

17. Capella is barred by the doctrine of prosecution history estoppel from asserting
 18 disclaimed claim constructions or alleging causes of action for infringement of the Asserted Patents
 19 in light of arguments and amendments made to obtain allowance of the applications that issued as
 20 the Asserted Patents.

21 SEVENTH DEFENSE**(Prosecution Laches)**

23. Capella is barred by the doctrine of prosecution laches from asserting the Asserted
 24 Patents against Cisco, as Capella unreasonably and unexplainably delayed prosecuting the patent
 25 applications that lead to the Asserted Patents.

PRAYER FOR RELIEF

WHEREFORE, Cisco respectfully requests that this Court enter a Judgment and Order in its favor and against Capella as follows:

A. Dismissing with prejudice Capella's Counterclaims and all claims asserted therein against Cisco, such that Capella takes nothing by way of its Counterclaims;

B. Declaring that Cisco does not, and has not, infringed, contributed to the infringement of, and/or induced the infringement of any valid claim of the Asserted Patents;

C. Declaring that the claims of the Asserted Patents are invalid, void and/or unenforceable;

D. Entering an award to Cisco of their attorneys' fees and expenses under 35 U.S.C. § 285;

F. Entering an award to Cisco of costs incurred; and

G. Granting to Cisco such other and further relief as the Court may deem just, proper and equitable under the circumstances.

Dated: June 29, 2020

WINSTON & STRAWN LLP

By: /s/ K. Padmanabhan
David P. Enzminger
Krishnan Padmanabhan
Louis L. Campbell

Attorneys for Plaintiff
CISCO SYSTEMS, INC.